undersigned, Deposit Account No. 19-0733, together with any other fees that may be required to maintain the pendency of this application, including any fees under 37 C.F.R. §1.16 and 1.17. Please consider this Request as timely filed.

In the Office Action, claims 1-17 again were rejected under 35 U.S.C. §103 over U.S. Patent No. 4,568,937 to Clark in view of U.S. Patent No. 6,535,143 to Miyamoto et al. Similarly, claims 18-34 were rejected under 35 U.S.C. §103 over the Clark patent in view of the Miyamoto et al. patent, while claims 35-51 also were rejected under 35 U.S.C. §103 over the Clark patent in view of the Miyamoto et al. patent. Lastly, 52-67 were rejected under 35 U.S.C. §103 over the Clark patent in view of the Miyamoto et al. patent claims. Applicant respectfully traverses each of these rejections, and courteously asks for their reconsideration.

In rejecting claims 1-34, the Examiner stated:

> Regarding claim [1 and 18], Clark discloses an apparatus for activating an inductance loop vehicle detector (abstract) comprising: a magnet (inductance loop)(col. 6, line 62); the magnet [sic] to a vehicle at a position that will cause the magnet to activate an inductance loop vehicle detector when the vehicle moves proximal to an inductance loop of the inductance loop vehicle detector (inductance profile of a vehicle, exhibiting a magnetic effect passing over a loop. As the vehicle is leaving the loop the inductance first inicreases, which a conventional detector tracks rapidly and then, as the vehicle finally leaves, decreases) (col. 6, lines 60-68). (See Office Action, page 2, lines 13-21, and page 7, line 9 to page 8, line 2.)

Similarly, in rejecting claims 35-51, the Examiner stated:

> Regarding claim 35, Clark discloses an apparatus for activating an inductance loop vehicle detector (abstract) comprising: manufacturing a vehicle (col. 6, lines 67-69); the magnet [sic] to a vehicle at a position that will cause the magnet to activate an inductance loop vehicle detector when the vehicle moves proximal to an inductance loop of the inductance loop vehicle detector (inductance profile of a vehicle, exhibiting a magnetic effect passing over a loop.

> As the vehicle is leaving the loop the inductance first increases, which a conventional detector tracks rapidly and then, as the vehicle finally leaves, decreases) (col. 6, lines 60-68). (*Id.*, page 12, lines 11-19).

To support the rejection of claims 52-67, the Examiner likewise asserted:

> Regarding claim 52, Clark discloses an apparatus for activating an inductance loop vehicle detector (abstract) comprising: the magnet [sic] to a vehicle at a position that will cause the magnet to activate an inductance loop vehicle detector when the vehicle moves proximal to an inductance loop of the inductance loop vehicle detector (inductance profile of a vehicle, exhibiting a magnetic effect passing over a loop. As the vehicle is leaving the loop the inductance first increases, which a conventional detector tracks rapidly and then, as the vehicle finally leaves, decreases) (col. 6, lines 60-68). (*Id.*, page 17, lines 9-17.)

Applicant respectfully submits that the Examiner has grossly misinterpreted the disclosure of the Clark patent.

First, the Clark patent does not teach or suggest an apparatus for activating an inductance loop vehicle detector. Rather, the Clark patent is directed to an induction loop vehicle detector. The only "apparatus" that this patent teaches for activating an inductance loop vehicle detector is a vehicle.

Second, the portion of the Clark patent relied upon by the Examiner does not teach or suggest the use of a magnet for any purpose, much less for activating an inductance loop vehicle detector. More particularly, column 6, lines 60-68 of the Clark patent state:

> FIG. 9(a) shows the typical "inductance profile" of a vehicle, exhibiting a magnetic effect passing over a loop. As the vehicle is leaving the loop the inductance first increases, which a conventional detector tracks rapidly, and then, as the vehicle finally leaves, decreases.
>
> This negative charge is sensed as a vehicle present by a conventional detector causing it to "lock-up", or register, a vehicle, as shown at 2 in FIG.9(b).

Applicant respectfully points out that this passage makes absolutely no mention of a "magnet," but instead refers only a "magnetic effect." This reference is to the inductive magnetic coupling that occurs when conductive material in the vehicle passes through the electromagnetic field produced by the inductive loop vehicle detector, and not to the use of an actual magnetic. Applicant courteously invites the Examiner's attention to, for example, the portion of the Clark patent in column 1, lines 14-18, which states:

> A decrease in the inductance of the loop occurs when a vehicle is positioned over it. This is due to the conducting parts of the vehicle acting as a shorted turn secondary of a transformer, the loop being the primary winding.

Further, Applicant points out that the Clark patent actually teaches away from the use of a magnetic to activate inductive loop vehicle detectors. Applicant respectfully invites the Examiner's attention to the portion of the Clark patent in column 1 lines 66, which teaches:

> A further problem with known induction loops is (iii) that it is possible for an increase in inductance to occur should a magnetic material be placed within the field of the sensor loop. As the material is removed a negative change in inductance will occur. This will cause most currently available vehicle detectors to indicate the presence of a vehicle.

Thus, the Clark patent teaches that a magnet will activate an inductive loop vehicle detector only as the magnet leaves the area of the inductor, and therefore could not accurately be used to indicate the current presence of a vehicle. Accordingly, Applicant submits that the Clark patent would lead one of ordinary skill in the art away from locating a magnet on a vehicle to activate an inductive loop vehicle detector.

Applicant respectfully submits that the Miyamoto et al. patent does not remedy these omissions of the Clark patent. Nothing in the Miyamoto et al. patent would teach or suggest

using a magnet to activate an inductive loop vehicle detector. Instead, the Miyamoto et al. patent describes the use of a separate detection device to detect the presence of a transponder mounted on a vehicle. Applicant therefore submits that no combination of the Clark and Miyamoto et al. patents would teach or suggest the invention as recited in any of claims 1-17.

With particular regard to claims 35-51, the Examiner has stated that column 6, lines 67-69 of the Clark patent teach "manufacturing a vehicle." Applicant respectfully points out, however, that nothing in this portion of the Clark patent mentions manufacturing a vehicle. In fact, despite the Examiner's assertions, nothing in the Clark patent discusses manufacturing a vehicle as recited in claims 35-51.

Regarding claims 3, 19, 36, and 53 the Examiner has argued that the Clark patent discloses the use of a permanent magnetic. Applicant again respectfully points out that the Clark patent makes absolutely no mention of a magnet of any type, much less a permanent magnet. Accordingly, it is respectfully submitted that the Clark patent cannot teach or suggest a permanent magnet as suggested by the Examiner. If the Examiner maintains this rejection, then Applicant respectfully asks that the Examiner point out specifically where the Clark patent discloses a permanent magnet (as opposed to a general reference to a "magnetic effect," which, as explained in detail above, is unrelated to the presence of an actual magnet).

In rejecting claims 4, 20, 37 and 54, the Examiner noted:

> Since, Clark discloses an induction loop (col. 2, line 38-42). It is well known in the art to select the magnet from ceramic magnet [sic], neodymium-iron-boron magnet [sic] and samarium-cobalt magnet in order to ensure a clean atmosphere performance that is unaffected by dust, corrosion, moisture [sic] in the environment. So [sic] it would have been obvious to one of ordinary skill in the

> art at the time the invention was made to select the magnet from ceramic magnet [sic], neodymium-iron-boron magnet and samarium-cobalt magnet in order to ensure a clean atmosphere performance that is unaffected by dust, corrosion, moisture in the environment. (See Office Action, page 4, lines 1-10; page 8, line 18 to page 9, line 5; page 13, line 14 to page 14, line 2; and page 18, lines 12-21.)

Applicant is uncertain as to the relevance of the first sentence regarding Clark's disclosure of an induction loop, as Clark does not teach or suggest the use of a magnet as discussed in detail above. With regard to the Examiner's assertion that the use of ceramic magnets, neodymium-iron-boron magnets and samarium-cobalt magnets are well known in the art to ensure a clean atmosphere performance that is unaffected by dust, corrosion, or moisture in the environment, Applicant respectfully points out that the Examiner has provided no evidence to support this assertion.

For example, Applicant is uncertain as to what is meant by "clean atmosphere performance." Applicant is also uncertain as to why one of ordinary skill in the art would believe the claimed materials to be superior to other magnetic materials for this purpose. Accordingly, if the Examiner maintains this rejection without provided some express teaching in the prior art, then Applicant respectfully requests that the Examiner support this rejection with an affidavit of personal knowledge in accordance with 37 U.S.C. §104(d)(2)).

Similarly, in rejecting claims 5, 21, 38, and 55, the Examiner noted:

> Since, Clark discloses an induction loop (col. 2, line 38-42). It is well known in the art to select the magnet from a grade 5 ceramic magnet in order to ensure a clean atmosphere performance that is unaffected by dust, corrosion, moisture [sic] in the environment. So [sic] it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the magnet from a grade 5 ceramic magnet in order to ensure a clean atmosphere performance that is unaffected by dust, corrosion, moisture in the environment. (See Office Action,

page 4, lines 1-10, page 9, lines 8-14, page 14, lines 5-12, and page 19, lines 3-10.)

Again, Applicant is uncertain as to the relevance of the first sentence regarding Clark's disclosure of an induction loop, as Clark does not teach or suggest the use of a magnet as discussed in detail above. With regard to the Examiner's assertion that the use of grade 5 ceramic magnets are well known in the art to ensure a clean atmosphere performance that is unaffected by dust, corrosion, or moisture in the environment, Applicant respectfully points out that the Examiner has provided no evidence to support this assertion.

Also, as previously noted, Applicant is uncertain as to what is meant by "clean atmosphere performance." Applicant also is uncertain as to why one of ordinary skill in the art would believe that grade 5 ceramic materials are superior for this purpose to grade 4 or grade 6 magnets, or to magnets of other materials. Accordingly, if the Examiner maintains this rejection without provided some express teaching in the prior art, then Applicant respectfully requests that the Examiner support this rejection with an affidavit of personal knowledge in accordance with 37 U.S.C. §104(d)(2)).

To support the rejection of claims 6, 22, 39 and 56, the Examiner stated:

> Since, Clark discloses an induction loop (col. 2, line 38-42). It is well known in the art for the magnet to have total flux of at least 20,000 maxwells and a maximum energy product of at least 6.5MGO$_e$ in order to ensure a clean atmosphere performance that is unaffected by dust, corrosion, moisture [sic] in the environment. So [sic] it would have been obvious to one of ordinary skill in the art at the time the invention was made to have total flux of at least 20,000 maxwells and a maximum energy product of at least 6.5MGO$_e$ in order to ensure a clean atmosphere performance that is unaffected by dust, corrosion, moisture in the environment. (See Office Action, page 4, line 22 to page 5, line 9; page 9, line 17 to page 10, line 4; page 14, line 15 to page 16, line 2; and page 19, lines 13-

22.)

Again, Applicant respectfully points out that the Examiner has provided no evidence to support this assertion. Moreover, in addition to being uncertain as to what is meant by "clean atmosphere performance," Applicant completely fails to understand the relevance of a magnet's total flux and maximum energy product to its "clean atmosphere performance." Accordingly, if the Examiner maintains this rejection without provided some express teaching in the prior art, then Applicant respectfully requests that the Examiner support this rejection with an affidavit of personal knowledge in accordance with 37 U.S.C. §104(d)(2)).

With respect to claims 7, 23, 40 and 57, the Examiner stated:

> Since, Clark discloses an induction loop (col. 2, line 38-42). It is well known in the art for the magnet to have a residual induction of at least 3000 gauss, and a coercive force of at least 2200 oersteds in order to ensure a clean atmosphere performance that is unaffected by dust, corrosion, moisture [sic] in the environment. So [sic] it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a residual induction of at least 3000 gauss, and a coercive force of at least 2200 oersteds in order to ensure a clean atmosphere performance that is unaffected by dust, corrosion, moisture in the environment. (See Office Action, page 5, lines 12-20, page 10, lines 7-16, page 15, lines 5-14, and page 20, lines 3-12.)

Again, Applicant respectfully points out that the Examiner has provided no evidence to support this assertion. Also, while Applicant is uncertain as to what is meant by "clean atmosphere performance," Applicant does not believe that it can have any relevance to a magnet's residual induction or coercive force as asserted by the Examiner. Accordingly, if the Examiner maintains this rejection without provided some express teaching in the prior art, then Applicant respectfully requests that the Examiner support this rejection with an affidavit of personal knowledge in

accordance with 37 U.S.C. §104(d)(2)).

With regard to claims 8, 24, 41 and 58, the Examiner has asserted that "Clark discloses the magnet is an electromagnet (col. 1, line 58)." (See Office Action, page 5, lines 21-22, page 10, lines 17-18, page 15, lines 15-16, and page 20, lines 13-14.) Applicant respectfully invites the Examiner to more carefully consider column 1, lines 56-59 of the Clark patent, which reads:

> It is considered desirable, and is also mandatory in the UK [United Kingdom], to operate only in a specific, relatively narrow, frequency band for electromagnetic compatibility reasons. (UK requires 62 kHz to 78 kHz.)

Applicant respectfully submits that anyone familiar with even high school physics would appreciate the difference between electromagnetic compatibility (i.e., compatibility that minimizes interference between different waves in the electromagnetic spectrum, which includes every frequency of energy from infrared waves to X-rays and cosmic rays) referred to by Clark and an electromagnet as recited in these claims. Accordingly, Applicant can only assume that the Examiner misread this portion of the Clark patent. Applicant again points out that Clark does not teach or suggest the use of any type of magnet to activate an inductance loop vehicle detector, including an electromagnet.

Referring to the rejection of claims 9, 25, 42 and 59, the Examiner stated:

> Since, Clark discloses induction loop installation buried approximately 50mm below the road surface (col. 1, lines 9-12). It is well known in the art to have a protecting coating to cover the induction loop in the road surface in order to ensure a clean atmosphere performance that is unaffected by dust, corrosion, moisture [sic] in the environment. (See Office Action, page 6, lines 2-7; page 10, line 20 to page 11, line 3; page 15, line 19 to page 16, line 1; and page 20, lines 17-21.)

Applicant respectfully points out that these claims recite a protective coating over a magnet

located on a vehicle used to activate an inductance loop vehicle detector. The induction loop referred to by the Examiner, however, is a stationary component of an inductance loop vehicle detector completely separate from a vehicle. Accordingly, Applicant respectfully submits that the use of a coating (which, incidentally, is not actually taught or suggested in the Clark patent) is entirely irrelevant to the use of a protective coating with the magnet recited in claims 9, 25, 42 and 59.

Moreover, in rejecting claims 10, 26, 43 and 60 which further recite that the coating is a conductive material, the Examiner refers to a portion of the Clark patent that is unrelated to either a magnet or the induction loop disclosed in the Clark patent. Specifically, the Examiner referred to column 2, line 3. Applicant respectfully points out that column 1, lines 2-3 read: "This is particularly true of high chassis lorries with steel braced radial tires." Even more unfathomable, the Examiner relied upon the same line of the Clark patent to reject claims 11, 27, 43, and 61, which recite that the coating is one or more of the group consisting of tin, nickel or chrome, claims 12, 28, 44, and 62, which recite that the coating is a non-conductive material, *and* claims 13, 29, 45 and 63, which recite that the coating is formed from plastic or rubber. Applicant respectfully submits that this portion of the Clark patent would not teach or suggest the features of the invention recited in any of claims 10-13, 26-29, 42-45 or 60-63, and certainly does not support the rejection of all of these claims.

In rejecting claims 14-17, 31-34, 48-51, and 65-67, the Examiner variously referred to Figures 1-3 in the Miyamoto et al. patent. Claims 14, 31, 48 and 65, however, recite that the mount [mounting the recited magnet to a vehicle] is selected from the group consisting of an

adhesive material, brackets, and a hook and loop fastener. Claims 15, 32, 49, and 66 then recite that the mount includes a member having an adhesive coating on two opposing surfaces, while claims 16, 33, 50, and 67 recite that the mount includes a corrugated tie. Claims 17, 34 and 51 then recite that the mount is integrally formed with the vehicle.

Applicant respectfully points out that none of these recited structures is shown or in any way suggested by any of Figures 1-3 of the Miyamoto et al. patent. Instead, the Miyamoto et al. patent only discloses that:

> The transponder can be mounted conveniently under the vehicle body. (See the Miyamoto et al. patent, column 4, lines 21-22).
>
> The transponder 30 is mounted under a bumper of a vehicle A such as a parking area associated vehicle and a monthly contract vehicle, as shown in FIG. 2. (*Id.*, column 5, lines 49-52).

and

> As described earlier, the transponder 30 is mounted under the bumper of a monthly contract vehicle or parking area associated vehicle. (*Id.*, column 6, lines 36-38.)

Accordingly, Applicant submits that neither Figs 1-3 nor the text of the Miyamoto et al. patent would teach or suggest the features of the invention recited in any of claims 14-17, 31-34, 48-51, and 65-67.

As discussed in detail above, Applicant again respectfully submits that no combination of the Clark patent the Miyamoto et al. patent would teach or suggest the features of the invention recited in any of claims 1-67. Accordingly, Applicant asks that the rejection of these claims be withdrawn.